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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/553,041	10/27/2006	Olivier Lavastre	F-871 (31223.00096)	1686
25264 7590 05/22/2009 FINA TECHNOLOGY INC PO BOX 674412 HOUSTON, TX 77267-4412				
EXAMINER				
QIAN, YUN				
ART UNIT		PAPER NUMBER		
1793				
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05/22/2009		PAPER		

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary

Application No.

10/553,041

Applicant(s)

LAVASTRE ET AL.

Examiner

YUN QIAN

Art Unit

1793

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 11 October 2005.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 10-25 is/are pending in the application.
- 4a) Of the above claim(s) 17-25 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 10-16 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO/ISD)
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date: _____
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: _____
- Paper No(s)/Mail Date 10/4/2008

DETAILED ACTION

Election/Restrictions

Restriction is required under 35 U.S.C. 121 and 372.

This application contains the following inventions or groups of inventions which are not so linked as to form a single general inventive concept under PCT Rule 13.1.

In accordance with 37 CFR 1.499, applicant is required, in reply to this action, to elect a single invention to which the claims must be restricted.

Group I, claims 10-16, drawn to a method for preparing a supported catalyst component.

Group II, claims 17-21 drawn to a composition of a supported catalyst system.

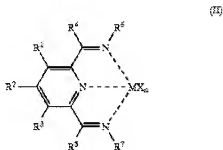
Group III, claims 22-25, drawn to using a supported catalyst system.

Claims 1-9 are cancelled.

The inventions listed as Groups I-III do not relate to a single general inventive concept under PCT Rule 13.1 because, under PCT Rule 13.2, they lack the same or corresponding special technical features for the following reasons:

Group I is obvious over Bennett et al. (US 5,955,555) in view of Woo et al. (US 5,093,297), further in view of Taylor et al. (Science, Vol.280, No. 536, pp267-270, 1998)..

Bennett et al teaches metal complex represent by the formula as shown below for polymerization of ethylene (claim 1):



However, Bennett et al. does not specifically teach attaching the catalyst to a solid support as per applicant claim 10.

Woo et al teaches a method of preparing polystyrene immobilized rhodium complex catalyst (title, Examples 1-2, col.4, lines 8-68).

Although neither Bennett nor Woo et al. specifically disclose the polystyrene beads as per applicant claim 10, Taylor et al. teaches an assay method for large encoded polymer encoded catalyst beads starting with the same polystyrene supported material as per applicant claim 10, which is commercial available from Rapp Polymer).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to combine the teachings of Bennett et al. /Woo et al. and Taylor et al. to obtain the invention as specified in the claim 10, motivated by the fact that the polymer immobilized catalyst has an advantage of easy recover and possible to reuse. These advantages offer to reduce the production cost (col.1, lines 38-51). Further, the catalysts on the polystyrene material from Rapp Polymer give a larger temperature increase (Reference and Notes #11, page 270).

Since the special technical feature is disclosed by the prior arts, that special technical feature does not provide a contribution over the prior art. Further, because

PCT Rule 13. 2 states that a lack of unity exists when the special technical feature does not provide a contribution over the prior art, and because the examiner has disclosed references which teach this special technical feature, a proper assertion has been made that there exists lack of unity.

During a telephone conversation with Tenley Krueger on 5/14/2009 a provisional election was made with traverse to prosecute the invention of Group I, claims 10-16. Affirmation of this election must be made by applicant in replying to this Office action. Claims 17-25 are withdrawn from further consideration by the examiner, 37 CFR 1.142(b), as being drawn to a non-elected invention.

Applicant is reminded that upon the cancellation of claims to a non-elected invention, the inventorship must be amended in compliance with 37 CFR 1.48(b) if one or more of the currently named inventors is no longer an inventor of at least one claim remaining in the application. Any amendment of inventorship must be accompanied by a request under 37 CFR 1.48(b) and by the fee required under 37 CFR 1.17(i).

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

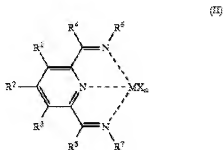
The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

Claims 10-16 are rejected under 35 U.S.C. 103(a) as being unpatentable over Bennett et al. (US 5,955,555) in view of Woo et al.(US 5,093,297), further in view of Taylor et al. (Science, Vol.280, No. 536, pp267-270, 1998).

Regarding claim 10, Bennett et al teaches a process for polymerization of ethylene catalyzed by a metal complex represent by the formula as shown below (claim 1):



Wherein $MX_n = FeCl_2$, $R^{1-3} = H$, $R^{4-5} = \text{hydrocarbyl groups}$, $R^{6-7} = \text{aryl groups}$. It corresponds to the recited claim formula 1.

However, Bennett et al. does not specifically teach anchoring the catalyst to a solid support as per applicant claim 10.

Woo et al teaches a method of preparing polystyrene immobilized rhodium complex catalyst (title, Examples 1-2, col.4, lines 8-68).

Although neither Bennett nor Woo et al. specifically disclose the polystyrene beads as per applicant claim 10, Taylor et al. teaches an assay method for large encoded polymer encoded catalyst beads starting with the same polystyrene supported material as per applicant claim 10, which is commercial available from Rapp Polymer).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to combine the teachings of Bennett et al. /Woo et al. and Taylor et al. to obtain the invention as specified in the claim 10, motivated by the fact that the polymer immobilized catalyst has an advantage of easy recover and possible to reuse. These advantages offer to reduce the production cost (col.1, lines 38-51). Further, the catalysts on the polystyrene material from Rapp Polymer give a larger temperature increase (Reference and Notes #11, page 270).

Therefore, the invention as claim 10 would have been *prima facie* obvious to one of ordinary skill in the art at the time the invention was made.

Regarding claims 11-12, as discussed above, R^{4-5} hydrocarbyl groups of the metal complex taught by Bennett et al. can be selected from 1 to 4 carbon atoms, which corresponds to claims 11-12 (claim 1).

Regarding claims 13-14, as discussed above, R^{6-7} aryl groups of the Fe(II) complex taught by Bennett et al. can be selected from substituted phenyl groups such as 2,6-diisopropyl phenyl groups. It meets the claimed limitations.

Regarding claims 15-16 as discussed above, R^{6-7} aryl groups of the Fe(II) complex taught by Bennett et al. are aryl or substituted aryl groups, it encompasses the instant claimed unsubstituted phenyl group and tri-methyl substituted phenyl group.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to YUN QIAN whose telephone number is (571)270-5834. The examiner can normally be reached on Monday-Thursday, 10:00am -4:00pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jerry Lorengo can be reached on 571-272-1233. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only.

For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/J.A. LORENZO/
Supervisory Patent Examiner, Art Unit 1793

/YUN QIAN/
Examiner, Art Unit 1793